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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,281	03/14/2007	Andrew Charlton Clothier	424662013400	6667

25227 7590 10/26/2009  
MORRISON & FOERSTER LLP  
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MCLEAN, VA 22102

EXAMINER
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IP, SHIK LUEN PAUL

ART UNIT	PAPER NUMBER
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2837

MAIL DATE	DELIVERY MODE
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10/26/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/588,281	<b>Applicant(s)</b> CLOTHIER ET AL.	
	<b>Examiner</b> /PAUL IP/	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,11-15 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11-15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/21/2009 &amp; 9/11/2009</u> .                               | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Information Disclosure Statement***

1. Applicants failure to disclose or acknowledge patent number 6,819,008 used and cited in the copending application number 10/588,289. Applicants are reminded for the duty of disclosure as defined in 37 CFR 1.56.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3-9, 11-15, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan et al (6,819,008) in view of Rozman (6,084,786).

Kaplan et al shows in figure 1 a DC link current sensing line 40c. Kaplan et al shows in figures 5-6 a control map (see figures 4-5, step 51, map, col. 2, lines 52-56 & col. 6, lines 57-66) for a controller 40 of an electrical machine such as a switched reluctance machine 20 driven by a motor 11 as shown in figure 1 having a rotor 24 and at least one electrically energisable phase winding A1A2, or B1B2 or C1C2 (see figure 2), the control map comprising: control map (fig. 5) includes a predetermined advance angle profile such as the predetermined turn on & turn off conduction angles to energies phase windings A-C (fig. 2) of said machine 20 associated with a range of rotor speeds (1000rpm to 5000 rpm, see col. 7 lines 6-26). Fig. 8 shows adjustment or compensation of conduction angles in order to maintain a desired power output, (see col. 8, lines 19-62), application of predetermined angle correction factor is taught in the adjustment or compensation of conduction angles where turn on and turn off angles are increased or decreased to achieve the desired power, (see col. 9, lines 6-20), predetermined angle correction factor is implemented in the adjustment or compensation of turn on and turn off conduction angles, which are predetermined (turn on & turn off angle defined by a predetermined angular relationship or orientation of the rotor 23 relative to the stator 21, see col. 5, lines 7-41). Kaplan et al. shows in figures 1-2 operation of an electrical machine 20 using data mapping (figs. 4-5), angle correction factor is implemented in the

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adjustment or compensation of conduction angles (step 63, fig. 8), where angle adjustment depends on a difference between a measured input power (actual measured power) and a predetermined input power (desired power) (see steps 61-62, fig. 8) (actual measured power [line 76] and desired power [line 71] is inputted to a comparator 75 for calculating the difference there between, see figure 9 col. 8 lines 31-67 and col. 9 lines 1-47 at a predetermined rotor speed such as rotor speeds from 1000rpm to 5000rpm with a desired operating parameter set in a control map, col. 7 lines 6-38. Whereas the claims recite a DC link voltage. However, the patent to Rozman discloses a converter system with power factor and DC ripple control comprising a DC link voltage feedback used for correcting the power factor to control the DC ripple of the system. Prima facie case is made that Rozman used current sensing transformers and sensors for measuring the capacitor DC link voltage. Rozman teaches and suggests to using current sensors and voltage sensors to detect the DC link current/voltage. Knowing the use of DC link voltage to convert into power factor determination or using DC link current to convert into power factor determination would produce the same result of detecting the DC link feedback to control the power factor of the system, one of ordinary skill in the art would be able to select either a DC link current or a DC link voltage to use for power factor determination. Since Rozman uses a DC link voltage feedback to control the power factor and DC ripple control, it would have been obvious to one of ordinary skill in the art to modify Kaplan et al's DC link current feedback with the DC link voltage feedback as taught or suggested by Rozman. Since Kaplan et al show in figures 5 and 6 the mapping graphs, it represents a memory storing a voltage/current

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compensation map comprising a plurality of correction factors as recited in the claims.

Rozman discloses at column 4 lines 54-61 the power up and soft start condition, it represents the obtained correction factor to the angular position of energization of the phase winding on starting the machine as recited in the claims.

***Response to Amendment***

6. Applicant's arguments with respect to claims 1, 3-9, 11-15, and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Communication Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to /PAUL IP/ whose telephone number is (571)272-1941. The examiner can normally be reached on Monday to Friday from 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson, can be reached on (571)-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Internet correspondence **MUST** be provided with a prior written authorization by applicant in the application file record giving the Office authorization to communicate with applicant via e-mail. Without a written authorization by applicant in place, the USPTO will not respond via Internet e-mail to any Internet correspondence which contains information subject to the confidentiality requirement as set forth in 35 U.S.C. 122.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/PAUL IP/  
Primary Examiner  
Art Unit 2837

10/22/2009